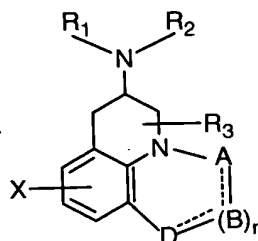


CLAIMS:

1. A method of treating a human suffering from, or susceptible to, a disease condition known to result in, or from, loss of neuronal cells or loss of neuronal cell function by
 5 reducing loss of neuronal cells or neuronal cell function resulting from such disease condition, said method comprising the step of administering to said human a neuroprotective amount of a compound of formula (A)



(A)

10

or a pharmaceutically acceptable salt, wherein in formula (A),

R_1 , R_2 and R_3 are the same or different and are:

- H,
- C_1 - C_6 alkyl,
- 15 C_3 - C_5 alkenyl,
- C_3 - C_5 alkynyl,
- C_3 - C_5 cycloalkyl,
- C_4 - C_{10} cycloalkyl,
- phenyl substituted C_1 - C_6 alkyl,
- 20 $-NR_1R_2$ where R_1 and R_2 are cyclized with the attached nitrogen atom to produce pyrrolidyl, piperidyl, morpholinyl, 4-methyl piperazinyl or imidazolyl;

X is:

- H,
- C_1 - C_6 alkyl,
- 25 -F, -Cl, -Br, -I,
- OH,
- C_1 - C_6 alkoxy,
- cyano,
- carboxamide,

carboxyl,
(C₁-C₆ alkoxy)carbonyl,

A is:

5 CH,
CH₂,
CH-(halogen) where halogen is -F, -Cl, -Br, -I,
CHCH₃,
C=O,
C=S,
10 C-SCH₃,
C=NH,
C-NH₂,
C-NHCH₃,
C-NHCOOCH₃,
15 C-NHCN,
SO₂,
N;

B is:

20 CH₂,
CH,
CH-(halogen) where halogen is as defined above,
C=O,
N,
NH,
25 N-CH₃,

D is:

30 CH,
CH₂,
CH-(halogen) where halogen is as defined above,
C=O,
O,
N,
NH,

N-CH₃;

and n is 0 or 1, and where — is a single or double bond, with the provisos:

(1) that when n is 0, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O,

5 C=S, C=NH, SO₂;

then D is CH₂, CH-(halogen) where halogen is as defined above, C=O, O,

NH, N-CH₃;

(2) that when n is 0, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; then

10 D is CH, N;

(3) that when n is 1, and

A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O,

C=S, C=NH, SO₂; and

B is CH₂, CH-(halogen) where halogen is as defined above, C=O, NH, N-

15 CH₃; then

D is CH₂, C=O, O, NH, N-CH₃;

(4) that when n is 1, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; and

B is CH, N; then

20 D is CH₂, C=O, O, NH, N-CH₃;

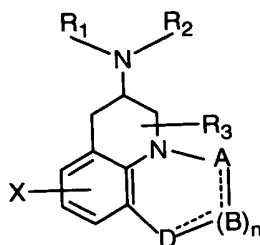
(5) that when n is 1, and

A is CH₂, CHCH₃, C=O, C=S, C=NH, SO₂, and

B is CH, N; then

D is CH, N; and pharmaceutically acceptable salts thereof to the human.

- 25 2. A method for preventing neuronal damage or the progression of neuronal damage in a patient suffering from or susceptible to such neuronal damage, said method comprising administering to the patient a neuroprotective amount of a compound of formula (A)



(A)

or a pharmaceutically acceptable salt, wherein in formula (A),

R_1 , R_2 and R_3 are the same or different and are:

- 5 -H,
 C_1 - C_6 alkyl,
 C_3 - C_5 alkenyl,
 C_3 - C_5 alkynyl,
 C_3 - C_5 cycloalkyl,
 10 C_4 - C_{10} cycloalkyl,
 phenyl substituted C_1 - C_6 alkyl,
 - NR_1R_2 where R_1 and R_2 are cyclized with the attached nitrogen atom to
 produce pyrrolidyl, piperidinyl, morpholinyl, 4-methyl piperazinyl or imidazolyl;

X is:

- 15 -H,
 C_1 - C_6 alkyl,
 -F, -Cl, -Br, -I,
 -OH,
 C_1 - C_6 alkoxy,
 20 cyano,
 carboxamide,
 carboxyl,
 (C_1 - C_6 alkoxy)carbonyl,

A is:

- 25 CH,
 CH_2 ,
 CH-(halogen) where halogen is -F, -Cl, -Br, -I,
 $CHCH_3$,

5 C=O,
 C=S,
 C-SCH₃,
 C=NH,
 C-NH₂,
 C-NHCH₃,
 C-NHCOOCH₃,
 C-NHCN,
 10 SO₂,
 N;

B is:

 CH₂,
 CH,
 CH-(halogen) where halogen is as defined above,
 15 C=O,
 N,
 NH,
 N-CH₃,

D is:

20 CH,
 CH₂,
 CH-(halogen) where halogen is as defined above,
 C=O,
 O,
 25 N,
 NH,
 N-CH₃;

and n is 0 or 1, and where — is a single or double bond, with the provisos:

(1) that when n is 0, and

30 A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O,
 C=S, C=NH, SO₂;
 then D is CH₂, CH-(halogen) where halogen is as defined above, C=O, O,
 NH, N-CH₃;

(2) that when n is 0, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; then

D is CH, N;

(3) that when n is 1, and

5 A is CH₂, CH-(halogen) where halogen is as defined above, CHCH₃, C=O, C=S, C=NH, SO₂; and

B is CH₂, CH-(halogen) where halogen is as defined above, C=O, NH, N-CH₃; then

D is CH₂, C=O, O, NH, N-CH₃;

10 (4) that when n is 1, and

A is CH, C-SCH₃, C-NH₂, C-NHCH₃, C-NHCOOCH₃, C-NHCN, N; and

B is CH, N; then

D is CH₂, C=O, O, NH, N-CH₃;

(5) that when n is 1, and

15 A is CH₂, CHCH₃, C=O, C=S, C=NH, SO₂, and

B is CH, N; then

D is CH, N; and pharmaceutically acceptable salts thereof to the human.

3. A method according to claim 1 or 2 wherein the disease condition is selected from Parkinson's disease, primary neurodegenerative disease; Huntington's Chorea; stroke and
20 other hypoxic or ischemic processes; neurotrauma; metabolically induced neurological damage; sequelae from cerebral seizures; hemorrhagic stroke; secondary neurodegenerative disease (metabolic or toxic); Alzheimer's disease, other memory disorders; or vascular dementia, multi-infarct dementia, Lewy body dementia, or neurogenerative dementia.

4. A method according to claim 3 wherein the disease condition is Parkinson's disease.

25 5. A method according to claim 1 or 2 wherein the compound of formula (A) is administered orally, intra-nasally, buccally, intra-pulmonary, parenterally and rectally.

6. A method according to claim 5 wherein the compound of formula (A) is administered orally.

7. A method according to claim 1 or 2 wherein the neuroprotective amount is from about
30 0.2 to about 8 mg/person/dose.

8. A method according to claim 7 where the neuroprotective amount is from about 0.5 to about 5 mg/person/dose.

9. A method according to claim 8 wherein the neuroprotective amount is from about 1 to about 3 mg/person/dose.
10. A method according to claim 1 or 2 wherein the pharmaceutically acceptable salt is selected from the group consisting of salts of the following acids methanesulfonic,
5 hydrochloric, hydrobromic, sulfuric, phosphoric, nitric, benzoic, citric, tartaric, fumaric, maleic, $\text{CH}_3-(\text{CH}_2)_n-\text{COOH}$ where n is 0 thru 4, $\text{HOOC}-(\text{CH}_2)_N-\text{COOH}$ where n is as defined above.
11. A method according to claim 1 or 2 wherein the compound of formula (A) is (5R)-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinolin-2(1H)-one or a pharmaceutically
10 acceptable salt thereof.
12. A method according to claim 11 where the pharmaceutically acceptable salt of (5R)-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinolin-2(1H)-one is (5R)-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinolin-2(1H)-one (Z)-2-butenedioate (1:1).
- 15 13. A method according to claim 1 or 2 where the compound of formula (A) is (5R)-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinolin-2(1H)-thione or a pharmaceutically acceptable salt thereof.
14. A method according to claim 13 where the pharmaceutically acceptable salt of (5R)-(methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinolin-2(1H)-thione is (5R)-
20 (methylamino)-5,6-dihydro-4H-imidazo[4,5,1-ij]quinolin-2(1H)-thione (Z)-2-butenedioate (1:1).